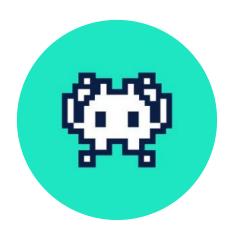# EXHIBIT 61

EXHIBIT O

Transcript: The Ship Show (Podcast),
March 1, 2022.

EXHIBIT O

TERRA SPACES   < https://terraspaces.org/>

Transcript: The Ship Show Ep 1 Kanav Kariya and Do Kwon Talk DeFi

The Ship Show

- **Audio** < https://terraspaces.org/2022/03/01/the-ship-show-ep-1-kanav-kariya-and-do-kwon-talk-defi/>
- **Twitter** < https://twitter.com/shipshow_>

Finn 0:42

Hello and welcome to The Ether. Today is Tuesday, March 1st 2022. This episode of The Ether is brought to you by Orbital Command, a community validator on Terra dedicated to educating, expanding, and promoting the LUNAtic community. Take advantage of their Terra Luna Intel Report on Telegram which brings you the hottest news and updates on all things Terra each and every day. Find it using the link in the show notes. You can also support their community efforts by considering them next time you're delegating or redelegating your LUNA. Find out more at orbitalcommand.io. This episode The Ether is also brought to you by

WeFund. WeFund is a community crowdfunding cross-chain incubator on Terra, and it's the first launchpad that implements a milestone funding release system to protect investors. All money raised for projects is deposited in Anchor Protocol and it's refundable, and all decisions are based on community voting power. WeFund is community focused and designed to be a user friendly experience for both project creators and investors. Be sure to follow them on Twitter and join the Telegram for more information. Links are in the show notes and check them out online at wefund.app. TerraSpaces appreciates the support from all our sponsors. Today on The Ether, The Ship Show, Episode One with Kanav and Do Kwon. Let's take a listen.

The Ship Show 1:59
Thanks, everyone for joining. We'll get going here in just a few minutes. Thanks, everyone for joining just looks like we're waiting on Do and then we'll go ahead and get started. All right, I think we've got everyone here. I want to start off by thanking everyone for joining this evening. This is the first episode of The Ship Show, which is a new Spaces series hosted by Jump. The goal behind this show is we want to feature various builders in this space and bring light to all the incredible infrastructure being built to support this next generation of crypto and web3. So with that said, my name is Eden. I'm the community manager at Jump Crypto, and I'll be your host tonight accompanied by my co-host Zion from Terraform Labs, who I'll go ahead and let him introduce himself now.

Zion 2:42
Hey, everyone, this is... Can you guys hear me?

The Ship Show 2:45
Yes.

Zion 2:47
Okay, awesome. Yeah, this is Zion from Terraform Labs. So I'm on the

communications team here at TFL. I also help with ecosystem development and a little bit of business development as well. And happy to be here with a couple giga brains here in the DeFi space, and able to pick their brains and ask them a few questions.

The Ship Show 3:07
Yeah, I think we're all pretty excited to be kicking off this Spaces series with Kanav and Do, two of the biggest minds in this space, so pretty good start to the series, I'd say. But that being said, yeah, tonight we'll be doing a deep dive with them into the Terra ecosystem, which already has an incredibly strong community behind it, as we can see from the turnout of this show already. As far as format goes for the Space, myself and Zion will be switching off asking questions of our speakers. And then we'll end with inviting a few additional guests up to ask a couple of final questions. When that time does come, we just kindly ask that you avoid shilling of any projects and instead use that time to ask thoughtful questions of our speakers. So with all that being said, we'll go ahead and get things started. Kanav and Do, you both play a huge role in this ecosystem, and we're grateful to have you here with us to share some of your knowledge with this group tonight. So if you wouldn't mind just starting off with a brief intro, I think that'd be great. I think many of us here know you already. But for those that may not perhaps a quick intro would be helpful. And then we can dive straight into questions. So Kanav, why don't you kick us off?

Kanav Kariya 3:19
Thanks, Eden. Hey, guys, I'm Kanav, I'm the president of the crypto division at Jump Tradings, Jump Crypto. Very excited that we're kicking this Spaces off. Jump's doing a whole bunch of things in this space. One of the most exciting things we're involved in is the Terra ecosystem, so excited to be on this one with Do.

The Ship Show 4:40
Awesome, and on to you, Do.

Do Kwon 4:41

Hi, guys. I'm Do, I'm the founder of Terra Money, which ships the most decentralized and useful type of money in the world, UST. I've known Kanav for years now. We first connected in I think 2019. And then we, yeah, it's been a really long time, man. So I think in our first call we started talking about the market module in Terra, where UST mints and redemptions are allowed and we were talking about curvatures. And, yeah, so...

Kanav Kariya 5:14

Yeah, UST I used to exclusively... And LUNA I used to exclusively trade on CoinEx and trade $10,000 a day. So I think we've come a good ways.

Zion 5:28

Definitely.

The Ship Show 5:30

Awesome. Thank you both. Like I said earlier, we're really excited to have you both here. So thank you for taking some time out of your evening to speak with everyone here. With that being said I think we'll go ahead and dive into some questions. So the first question is more of an open one to both of you. And one of which I think everyone would love to know, and that is how and when did you first enter or discover crypto. We've got new people entering the space every day so I think hearing from the true early adopters of blockchain technology would be inspiring to most. So take us back to that day, the moment that initially inspired you to pursue crypto eventually leading you both to where you are today. We can start with Do for that one.

Do Kwon 6:14

Before starting Terra, I was running a Wi-Fi mesh startup. So the technology we were developing allowed user devices to connect to each other over Wi-Fi direct and Bluetooth, and so basically like a distributed telecom network. And you can

imagine that a lot of standard Google search queries, like distributed network, and things like that turns up things like Bitcoin and Ethereum so I first got acclimated there. And then, randomly around the same timeline a friend of mine invited me to a Facebook chat group that had seven people and was mostly people from our age group at our college, talking about new ICOs and Ethereum and different types of apps that you can build on top. So that's sort of how I started to get red-pilled and that group grew to 250 people. There was a Discord server of builders, and investors, and things like that. And then that's where I started to spend a lot of my time going to meetups, reading white papers, participating in communities. I think in those early moments, I started to develop the first intuition of what eventually Terra would become.

The Ship Show 7:29
Awesome. Awesome. Yeah, to hear about a Facebook Group of seven people growing exponentially is interesting, coming in the world of web3. So thanks for sharing.

Zion 7:39
Kanav, do you want to tell us a bit about yours?

Kanav Kariya 7:42
Yeah, so I read into crypto at Jump. So I went to school at the University of Illinois, where Jump had a research lab where we were working on all kinds of random stuff. And so there was a VR project they started with 3D screens, there was a Bitcoin mining rig in the closet, and a bunch of interns were working on a trading project to connect to OKEx, and Poloniex, and all the other crypto exchanges, and it was an awesome and really infectious environment. And as we… and talk about crypto all day, and it was impossible to not get… And so I came back to Jump and I've been in crypto since.

Zion 8:30

That's awesome.

Do Kwon 8:31

Do you mind if I interject with a question for Kanav?

Zion 8:35

Yeah, go ahead.

Do Kwon 8:36

Right now you and Jump, you guys do a lot of different things. So what are the things in DeFi that are the most interesting to you?

Kanav Kariya 8:45

The things that we... The things that brought us to DeFi to start and for folks... And I probably skipped this in my introduction, but Jump was traditionally a perp trading firm. It's about 20 years old, it's the largest trader of futures in the world. It trades kind of a lot of other things as well quantitatively. And when we started working with Do and other founders in the space early on, it was primarily thinking through liquidity related problems, especially as it comes to LUNA and UST, like Do mentioned, we were talking through the curvature of the market module, and then also the impacts of LUNA liquidity on the robustness of the peg and things of that sort. And when we entered DeFi and we started encountering these problems, it was a programming in resource-constrained environments, it was complex systems, but that all existed in this completely trustless and highly composable fashion. And so, the skills from high frequency trading and quant stuff generally translated over pretty nicely. And the whole composability aspect was huge primarily because of just the absolute stagnation of the pace of development in traditional finance, right. So nothing's really changed in a really long time. There are kind of the same players moving at the same space, with pretty tightly held

nooses on new developments. And that's primarily because it's really, really hard to establish trust.

Kanav Kariya 10:26

So if you think about how our futures trade is settled on the CME, for example, there's a matching engine and a swap occurs. But then behind the settlement of that swap, there is a clearing house, there's an FCM, or DCM, there's like nine other three letter acronym intermediaries that go through from match to settlement of the funds, which causes lots of problems, lots of regulations, and it's all needed, because otherwise, you really don't know if your trade is going to be reliably settled at the end of the day. And with crypto, the match is the settle. And that's dramatically powerful. And that then allows composition on top of the settlements, and composition on top of other products that are created as a result of the settlements. And that's caused such a dramatic change in the pace of innovation in financial markets. I've talked about this before, but we've seen market structure on the ETH blockchain evolved from being the equivalent of open outcry, to FIFO matching, to continuous batch auctions with the introduction of flash bots. And just the existence of that pace of change is the single most exciting thing about this space. Because you just don't want to bet against that, and that there's gonna be a lot of cool stuff created. So there was a bit of a longer answer.

Do Kwon 11:53

Got it. So as sort of a follow up, a lot of people think about... A lot of people that are especially active in DeFi think about market makers and professional trading firms as predatory sharks, right. So this reputation that when the yields for a DeFi product compresses, it's kind of like, "Oh, Kanav took my yields again," or like... Who's the Alameda guy? Sam Chubbucko, or something like that? Yeah. "Damn it, Sam," those memes are just rampant everywhere. How do you feel about the role of a professional trading firm, like Jump Crypto, in crypto? How can you add value to the space? So what is it that you actually do? Are allegations of trading firms are predatory sharks, is any of that accurate?

Kanav Kariya 12:46

So there's a few things that we do in this space, right. One is participation on centralized venues. And our role on the centralized venues is to keep pricing tied together to beef up liquidity, to make sure that markets are in line and compressed, right. So like back in the day, if you remember 2018 or so, Coinbase listings would go off, and the price on Coinbase would be 15% higher than they would be on every other venue in the world. And the new retail trader would come in and trade $100 in size and get really bad sell because there was bad liquidity on the product and suffer from really bad outcomes. So on the centralized side, what market makers are generally doing is reflecting and providing liquidity across all these venues so that there is a really, really tight spread for everyone to come in and participate. And the way the market makers make money is by effectively being on both sides of that spread. The hope is that there are some people that want to buy, and some people that want to sell over a period of time. And if you are able to basically go through that loop a few times over a long period of time, that you'd be able to be paid for providing that service. So that's what Jump does on the centralized side.

Kanav Kariya 14:06

On the decentralized side. When you come to the highly resource constrained environments like AMMs and stuff, there isn't really a lot of edge to be participating as a liquidity provider or an xyk, right. Anybody with money can come in and deposit their capital on the pool and the development of trading intelligence has little applicability that. There we have been really involved on the DeFi side is in helping building infrastructure, right. So the couple of big projects that we've been very involved with are Pyth and Wormhole; Pyth is an oracle project that leverages the trading data of big firms like Jump, Jane Street, Susquehanna, Alameda, and many others to create a robust oracle price; or Wormhole, which is a decentralized bridge between a number of dominant blockchains. And in finding those opportunities as we've been involved in this space, we've been able to leverage our engineering talents that we use to build

trading infrastructure to really, hopefully add some value to this space and create some good stuff. I'd say the third bucket of what we've been really involved in is, of course, in governance and helping protocols build. So we put in the two of the early governance proposals that helped scale the UST floor back when UST was a 10 million supply last December, when the market module had limited liquidity relative to the liquidity that was reflected on the centralized venues, and in helping protocols that are working through complex trading problems, implement these strategies to achieve kind of maximum success while being aligned with them in the best way possible, right. So that was a smattering of things. There are 140 people on the Jump Crypto team now and so we're trying to get involved in a lot of different ways.

Do Kwon 16:08
So the two products that you're working on now... And moderators, feel free to cut me off whenever this gets boring, but I'm just gonna run with it for now.

The Ship Show 16:17
We do have a series of questions. So yeah, I mean, whenever we can get back on script... Or we can let you guys have a quick chat.

Do Kwon 16:26
Okay, I might interject later. But let's go back to the script.

Zion 16:34
Yeah, so I had a question. So I'd like to get your guys' thoughts on this year of 2022. So looking at the current state of crypto, what are you guys' expectations for 2022? Do you expect that we'll see user growth stall in the short term? What are your thoughts or expectations are in 2022? This time we can start with Do.

Do Kwon 16:55
Yeah, so I think the big difference this year from 2017 was in 2017 people were just creating random assets, right. So people are just creating ERC20s, or forks and then

marking it to the public, as "the infrastructure of the future", and for most of them people got wiped out. This time, the bubble's starting form, but it's more on the NFT side. So I literally laughed for five minutes straight, not skipping a second in between when I looked at the Pixelmon output. That was so super hilarious. I'm almost thinking that I'm actually linking this to entertainment value, rather than... I think they intentionally tried to be funny, because the output there for a $70 million mint was absolutely hilarious. And this is pretty obvious, right. So at any given situation if there isn't a clear leader in sort of like the assets that have been formed in the NFT space, the first intuition is, why not me? Why can't I mint that asset that's going to be like the next Crypto Punks, or the Bored Apes, or things like that. And I think some of these efforts are laudable. But right now, we have an oversupply of games minting their own NFTs or artists that are creating new NFT collections. Once again, a lot of these things are valuable. But there's an oversupply and the marginal effort of these things are going down, especially with a lot of tools and help from the existing NFT community's starting to build up.

Do Kwon 18:46

I think in 2022, the transition that we need to see is fewer people wanting to mint assets, but wanting to work with existing assets to build a community around it and in some cases to build marginal businesses. Similar to how lots of things in DeFi, yes, usually there is a governance token of some sort to support liquidity, or to vote on important parameters in the protocol. But by and large, how DeFi works is that it works with a base of an ever consolidating set of existing assets and protocols, right. So in that case, new protocol builders that are coming into the ecosystem augment the stuff that has already been built, it doesn't try to do the same thing over and over again. So there's less horizontal expansion, there's more vertical building. I think the new types that are coming in "the metaverse space", it's interesting, but right now everybody is doing the exact same thing, the same play-to-earn game, the same NFT, and it's an ever expanding list of horizontal expansion of new assets that are entering the system. I think that should transition to vertical building where, for example, people can collect five different NFTs and

then write a fantasy lore behind it, or there could be a new Netflix series, or there could be a game where people are allowed to import their identities from their NFT collections. So I think a lot of these things are going to be value additive to the entire space and I think it's going to weed out people that are looking to make a quick buck or scam.

Kanav Kariya 20:33
Can I also jump in with a good question here?

Do Kwon 20:36
Sure.

Zion 20:36
Yeah, definitely. So Do, of course a large part of your team is still in Korea, and you spent a good amount of time there. Korea is always… Not that we are a very technologically forward country, and there's established Metaverse type projects there. Without the NFT is, what are the kinds of NFT projects that you think are going to be really exciting, especially when you think about some of the existing stuff that you see in that ecosystem, in the Korean ecosystem?

Do Kwon 21:09
Yeah. So that's really interesting. So I think, for a lot of the new games and Metaverse attempts that are coming out from Korea, I think I've been fortunate in the sense that I've been able to influence or give advice to a lot of these projects that manifests as they come out. And the first intuition is always to do… "Let's do what Axie did," or, "Let's mint our own NFT collection by using this Kpop label," or something like that. But I think ultimately, the most exciting thing about crypto, be it fungible tokens or non fungible tokens, is that it creates a conception of property rights on the internet. And what I mean by this is that, before, we had the meatspace, and the digital world, and it was only possible to work and play in one of them, the physical world. Because in the digital world, there were no property

rights to speak of so it wasn't possible to build your own domain, it wasn't possible to build your own property. A billionaire and a middle school students would have the same property rights, the same LinkedIn page, the same email address, and the only distinction, the only types of businesses I could really build on top of this were online advertising, web2, "You can use our shit for free, but we will sell your data." Web3 I think is exciting, because it allows you to construct property rights on the internet. And in order to do this, in order for property rights to be valuable, you need people that respect them. So what I mean is there's a nascent sort of conception of property rights that are starting to form over NFTs as fungible tokens. So I think the role of a lot of these new Metaverse plays or games as they're coming out is that I think it's okay for them to mint some of their assets. But as long as they respect the property rights of the systems that came before.

Do Kwon 23:02

So, for example in Korea, every single public gaming company, AAA publisher is going to be in web3 in 2022. And a lot of those plays are going to be built on Terra. And what I tried to stress is I try to inject this mental model of NFTs and fungible tokens as being frameworks for property rights. And the way that you can win over and captivate communities is to make sure that their existing property rights are respected. So for example, there is a pretty interesting play, where it's kind of like an open digital space where people can import their NFTs from multiple different chains. So these 2d NFTs become 3D avatars, and then people can chat with each other, they can shop for new things, so there's brand alliances, so it's basically like a shopping mall type of experience like Saks Fifth Avenue. And then you can each visit some of these stores and buy, in some cases, new NFTs, or play mini games in this metaverse, but at the end of the day the baseline assumption is that this should be a place where you can bring utility to the property that you already own.

Kanav Kariya 24:19

Yeah, that makes a lot of sense, man. I think the first time that clicked was when...

There was a team at ETHDenver a couple years ago that built a trading card game that let you inherit properties from your Crypto Kitties. And hopefully, all the cool stuff that's coming out of the AAA titles in Korea would be much, much more heavily featured and a lot more lore. So we could be cool to see a bunch of that. On the DeFi side, you're talking about a bunch of vertical integration. What are some of the primitives that you're most excited about, that are being built on Terra or otherwise that are vertically integrating on top of a lot of the cool pieces we have today?

Do Kwon 25:02

Yeah, so I mean, I can't name these things by name because I get a lot of… And that I think they should preserve the ability to control their own destiny and do announcements and things like that. But one of the things that I'm really interested in is this idea that stories are basically the base layer for culture. And if you look at a lot of these NFTs, it's as if you've sort of inverted the traditional IP publishing process where usually, if you have a IP franchise like the Marvel series, or Harry Potter, you build the story first, which encapsulates the reader, and then you have either figurines or different types of IP that result from that that can be purchased and bring revenue to the original creator. In the world of NFTs it's the opposite, whereby you have NFT collections that have value, but prior to a story being constructed. So this new protocol, I think it's pretty interesting, because it allows communities to come together and then decide on a canonical version of fanfiction, that is going to be the defining story for IP. And this ownership of this IP doesn't belong to one person. But it's distributed over the community that helped to make this story its own. So some of the use cases that you can use something like this is that for example, you could take NFT collections and then constitute and weave together a story on top of this NFT collections, that makes the collection more valuable. And then once you have this story, you have a baseline, you have the base layer and building blocks by which you can spin this out into, let's say, games, or you can spin this out into movies, you can spin this out into serial fiction. And another benefit of this is that it's not monolithic, right, so it's not one author

deciding on a canonical version of what the story should be, and the cultural relevance of this story, with the exception of a few titles, ends at some point. But it's constantly evolving, as in there's fanfiction that's being layered in, new boundaries that are being explored, new stories that are being tacked on to the existing version, so it's a living and breathing document that forms a base layer for different types of cultural things to be built on top.

Kanav Kariya 27:30
How do I get in, man?

Do Kwon 27:32
Oh, get in?

Kanav Kariya 27:33
How do I get it?

Do Kwon 27:35
Only angel, no Jump dollars.

Kanav Kariya 27:36
[chuckle] No Jump dollars. I'll take it. I'll take it. Yeah.

Zion 27:41
Eden, do you have a question?

The Ship Show 27:44
I do. Thanks for asking. Yeah, the next question is for Kanav. With countless dApps being continuously built within the ecosystem, I'm curious to know what do you like to see developers working on as they enter this space? How do they build a great product such as the Terra protocol?

Kanav Kariya 28:01
Yeah, I think for people that are really, really fresh into web3, it's hard to get an

exact grasp on what the problems that is that people are really grasping with and so there's a big temptation to fork the next P2E, or fork the next yield farm and try to spin something up. An effort that I've seen a lot of people in the space making, Do especially, over the last couple days also had a few threads out on our... There's a lot of problems in this space that folks like us, folks like Do, really want to see built, but don't have the bandwidth and capacity to get to. And there's a lot of high quality capital available to help shape and build it. And so for real builders and real founders, that are, I think increasingly now, better and better outlets to find good meaty problems to attack that can be attacked and actually have a broad number of capacities, even in completely spinning out new business lines, running their own businesses off of various verticals that are unestablished, or even doing a pretty concrete chunk of work for major projects. And so for example, with Wormhole, which is an interoperability protocol that we've been helping build, it's pretty hard to have cross-chain UX where you need to have gas assets on both sides. So if you want to move from Solana to Terra or the other way, you need to have both SOL and LUNA. But if you can have intermediate relayers that are willing to take a fee to basically abstract that problem away from you, that dramatically improves the UX for a lot of people. And similar to that there are a lot of other components that just need to be built in this space. And there's good Spaces where those have been documented now. Do probably has some good additions to this as well.

Do Kwon 30:13

Yeah. So for a long time TFL defined itself as an app factory, right. So the idea was that we sort of thought about Terra USD as the most important product at the firm. And then we would spend lots of time building features to make this money the most useful form of currency there is. But one of the things that we realized is, as we kept doing this, we ran into two problems. So we sort of like became overstretched, because we were running too many different things at the same time. So it's not like you can just ship out a protocol and just leave it, right. So in some cases, it picks up enough organic community and builders, such that they

can sort of run with the protocol on its own, and it's happened in a couple of cases. But in some cases, the first version that we ship happens to be off from what we expected because of a few reasons, in which case we need to work on V2s, we need to work on getting more builders involved to make sure that the protocol can stand strong on its own. So after some point, we became overstretched as an organization, so we couldn't do too many different things at the same time. So what we tried thereafter, is sort of an EIR program, where people would just come to us, and then we would give them an idea, we would help them hire developers and builders, and the results of these programs were things like Pylon Protocol, and Valkyrie, which are both the products of the EIR program at Terra. And the goal is that we would eventually send these companies out, which we did for both of them.

Do Kwon 31:50
Now, I think this method can work well, it just that it's hard to parallelize this across multiple different things. And the longer that I stay in crypto, we start to build up a repository of a ton of different ideas that we think would be valuable in web3. But the issue is that the incentives in crypto are broken, right, because you could just come in as an anon, and then you could fork four different protocols, slap on a token, raise money from crypto VCs, and then walk away with whatever figures that you could get away with in that case. So if you compare that with the effort... So you could get an NFT mint like Pixelmon and make $70 million. You could do this in a few weeks, or you can launch a meme coin like Shiba Inu and that's probably billions of dollars in returns for the creators. And if you compare that with the slow grind of having to think through a valuable infrastructure for web3, to tackle the hard problems, to put in 100 hours a week month over month for several years, the incentives are misaligned, which I feel like why a lot of the entrepreneurial efforts are spent on replicating the same thing over and over again, with a small marketing pitch.

Do Kwon 33:09

But I think one of the most exciting things that I've started to observe is that there are people that break these incentives. They want to buck the trends, they don't care about short term incentives, because they're most interested in leaving their mark on the world, right. And then if you look them in the eye, there's this little glint where you know that what they want to do is to someday depend the entire worth to their wealth, which sounds incredibly evil, but it speaks to the mission and the things that they're willing to do in order to make web3 better. So yeah, essentially, I think the proposal is simple. If you want to get into web3, you have an interesting idea, or you can... It doesn't matter if you don't have an idea, then in that case just come to me or Kanave. We're starting to put together accelerators across the world where you can get lots of time with us in trying to think through the types of things that you want to build, help in development resources, or mechanism designs in getting your protocol to product market fit. And yeah, I mean, everything starts with a DM.

The Ship Show 34:20

Very true. Awesome. Thank you so much, Do, for that. So let's dive into a little bit more about Terra UST specifically. The two attractive features of Terra are its security and stability. I'd love to ask Do to explain more about how UST achieved stability and then we'll ask Kanav to tell us a bit more about the Luna Foundation Guard and what that means for security.

Kanav Kariya 34:45

Got it.

Do Kwon 34:47

So the easy way of explaining how UST maintains peg is that LUNA absorbs the volatility of Terra stablecoins. So at any given point, you can mint one Terra USD by burning a dollars worth of LUNA, and then you can always redeem one Terra USD for a dollars worth of LUNA as well. So during times in which the market demand

for UST falls, there's an arbitrage incentive. So for example, if LUNA starts to trade at 90 cents, then traders can make money by buying UST from the open market, swapping it to LUNA and then capture a 10% arb profit. On the other side, if UST is trading at 1.1 dollars, you can buy a dollars worth of LUNA from the market, swap it to UST and then capture 10% arb profit that way. So insofar as you have a liquid market for LUNA at some market value, UST is able to facilitate minting redemptions in a highly scalable, purely algorithmic kind of way.

Kanav Kariya 35:49
So there's a place that the LFG comes into it arguments is Do talked about how you can potentially create or redeem UST by interacting with LUNA markets and, like I said, LUNA liquidity is kind of paramount to making that stable and robustly possible at reasonable size in periods where the UST economy is significantly contracting or expanding. And as you said at the start of the show, I think we've come a giant, giant amount of ways in LUNA liquidity throughout the broader ecosystem, relative to even a year ago, when it was trading, I think, probably less than $100 million or so daily. And so that in itself adds a lot of margin in there being... Taken deep enough book that can absorb these moves. But on extraneous circumstances entail situations, which of course do happen, sometimes there are contracted short periods where the outflows, for example, can be of a larger quantity than the liquidity in the book at that point in time can facilitate. And so this is kind of like a classic liquidity crisis. And for periods of those natures, it's extremely useful to have a reserve that can step in until the market is able to kind of reconsolidate liquidity around those positions. And so the LFG holds a billion dollars of Bitcoin, which is an extremely sizable Treasury reserve, and the LFG also has plans to increase its reserve size. And it's basically meant to take out these extreme spikes and inject liquidity into the book and allow markets to consolidate again around the new prices, when there are extreme price movements, which do happen every sometime. And Do, correct me if there's something I've missed out or if I haven't characterize there exactly just right.

Do Kwon 37:53

No, I think that's perfect. And I think the expectation is that LFG and Michael Saylor are going to compete on whatever it is that Saylor does.

Kanav Kariya 38:02

[chuckle] I'm betting on the LFG horse here.

Do Kwon 38:07

Yeah, so you can expect the reserves from LFG to scale with the growth of UST as it gets more widely adopted. And I think we should be... We're sort of finalizing and tinkering with the mechanism design as we speak, but I think we should be able to go public with something more soon. And you can sort of think about these reserves that are being held in Bitcoin to be a decentralized Forex augmentation to the Terra protocol, and it'll live in a purely algorithmic, decentralized way on a smart contract.

Zion 38:47

The pre-alpha drop by Do here. Yeah, we'll have an announcement hopefully coming out soon with the mechanism design there for LFG. But one thing I wanted to talk about with you, Do, and then also maybe get Kanav's thoughts as well, was around UST used as money. So Do, if you could... We talked a little bit about it already, what separates UST from some of these other stablecoins like DAI and USDT, and things like that. But this is really... The stablecoins like UST on Terra are kind of the core innovation of the Terra protocol and one of the things that separates it from some of these other L1s. So could you tell us a little bit more about UST and maybe the road ahead? Where do you see UST going?

Do Kwon 39:33

So the way that I think about it is when we first started the Terra experiments, I think, in 2017 and 2018, the central thesis was that a decentralized economy needs decentralized money. A lot of people didn't really buy into that premise because

the world wasn't as much on fire back then. But today, literally, there's so much censorship going on in centralized money that even nation states are looking to decentralize monies in order to disintermediate or to remove themselves from either sanctions or different types of censorship. So we live in a simulation, essentially, where the need for decentralized money has never been greater. So I sort of think about Terra as a valuable hedge, as like the flames of the empire start to go out, and as the world slips into more and more chaos, I think the need for decentralized money is going to grow and grow. And I think that growth is being reflected, and it's playing out exactly as we speak. One of the things that people don't realize is that UST would be growing faster if it wasn't for the liquidity constraints that are placed on the market module. So actually, UST is expanding its monetary base at the fastest rate of throughput that it can right now, which is indicative of the massive amounts of latent demand that is sitting in the background.

Do Kwon 41:03

Now, I think we largely look to three areas of growth for UST. I think number one is the growth of UST on the Terra blockchain. Terra as a layer one happened almost by accident as we set up a smart contract layer from the CosmWasm team to experiment with building protocols and use cases for UST like Mirror and Anchor. But now it is currently one of the most vibrant L1 ecosystems out there. And it is the second largest smart contract platform by TVL after Ethereum, and the third largest by market cap after Ethereum and BNB. So I think that growth is going to continue. There's a lot of amazing innovations that are coming to the Terra blockchain, and of course gaming, DeFi, story creation, culture. So I think all of these projects are going to start to add significantly to UST market cap and as well as augmenting the strength of the protocols that came before. Second is cross-chain, and Wormhole plays a valuable role in this. Our goal is to make sure that UST is the most liquid and the most successful stablecoin across all the smart contract platforms, where the is developers and users. And with Wormhole, we're building a UST highway to deliver Terra stablecoins to every blockchain, right. So

we will be big in Solana, we'll be big in Avalanche, we'll be big in Polygon. And we expect that not only liquidity will start to form on these blockchains, but we will be active in building applications on these block chains as well as helping other developers that are building DeFi protocols with a strong need for decentralized money and building other types of cross-chain applications as well.

Zion 43:00

Yeah, that's super exciting. I can't wait to see UST continue to expand and see some of these interesting new applications on these other chains. Eden, do you have another question here?

The Ship Show 43:13

Yeah, I'm actually... Just following up on that, I'm actually interested... And this is a question for Do, can you speak a little bit more to the potential of the in-real-life applications of Terra as far as online and offline payments, and dApps overall, and usability there. I'm just curious what you think is possible in the coming days and weeks.

Do Kwon 43:33

A couple years ago I used to discuss this as a future, it's no longer the case. So I would say every fintech company, every payment processor, is looking to integrate crypto over the next two years. They just haven't pulled the trigger yet because if you work in a massive fintech company, like your ship cycle looks... You basically ship once a year, right. But if you... Basically, there are no, let's say, neobanks that are not looking to tap into DeFi yields for their users because to not do so today is going to look like commercial suicide. Because if you're a neobank, and then you're offering 0.5% of what you call "high yield savings", and your competitor comes along and offers you, let's say, 10% or 15%, you are literally screwed. You will be out of business in six months. And if you're a payment processor, and if the spreads that you're charging are significantly higher than what your competition is able to do, because they do it through Terra FX rails, then you will be out of

business in two years tops right. So essentially as crypto becomes more liquid and decentralized stablecoins are able to perform at the liquidity and the throughput of the commercial systems that power the financial Internet of the world, I think decentralized stablecoins will be a mainstay across every single main commercial application.

The Ship Show 45:05
Awesome. Thank you so much for diving into that. Appreciate it. You've also said before that you feel we are earlier than the beginning. Do you still feel this way? And if so, how long do you think you'll feel like this?

Do Kwon 45:19
I think it's possible that it's always the beginning until I die. [chuckle] But I think... So my mental model is, if my backlog shrinks, i.e., the types of problems that we are looking to solve, if that diminishes in size, or diminishes in addition, then I would say that we are entering into a stable growth state. But that has never happened. Actually the more fires that we put out, the more things that we ship, I see even more opportunities and the types of problems that we need to solve. So I would say we're always at the beginning, things are so early.

Zion 46:02
Kanav, I'd be interested... Sorry, Eden, I just wanted to turn that over to Kanav as well, and just get his thoughts in terms of where he thinks we are in, in kind of crypto and DeFi lifecycle.

Kanav Kariya 46:13
Yeah, I strongly concur with Do. As you start building more, you always just discover the infinite space of things that need to be built, and then you're always hoping for just this one thing to get built, and then that one thing uncovers the next one. And so that's kind of the perpetual state of building. The reality is, we're super, super early, right. There's one or two wallets total that even have reasonable

UX for any kind of activity. Anyone that even wants to buy an NFT, which is the most retail-friendly activity possible has to navigate through all the craziness of Metamask and put offers and bids out. And it's basically impossible to use. And as we see consumer behaviors involved in frontends, keep on integrating all the complex fun games that we've been building in the background, I think we're hopefully going to start at least reaching the first 100 million real users of crypto, so pretty early.

Zion 47:14
I couldn't agree more.

The Ship Show 47:16
Good to hear the word early. I think, everyone likes to hear those words. Awesome, great. Well, I did want to make a quick mention that we do have an active POAP for this event. So if you're familiar with that everyone in the audience, you can download the app from poap.xyz, and then enter the phrase "DoAndKanavShip!", it's going to be all one word, each word capitalized. And you'll get an exclusive collectible token for proof of attendance at this event. So just want to make sure that we mentioned that on the call tonight. And I think we can segue into some questions from the audience. I think we have someone, Satoshi Alien, looking to come up and ask a question. I'm gonna invite you up as a speaker now.

Satoshi Alien 48:09
Hey, guys, how's it going? When it comes to the LFG, obviously, Bitcoin is a big asset. Are there any other plans to expand the reserves at all at some point?

Do Kwon 48:20
We're both directors here so I think we can both answer but, yes.

Kanav Kariya 48:29
Yeah, I think scaling with the float as it comes out will be quite important. So that the liquidity reserve is commensurate with the adoption of UST and the liquidity

that's needed to absorb some of those 10 percentage moves in the expansion or contraction of the economy. And so, working through with Do and the rest of the LFG team on potential ways to execute that most effectively, and then potentially diversify. So I think there'll be some cool stuff coming out pretty soon.

Satoshi Alien 49:05

Awesome. Thank you so much.

Zion 49:08

Cool. So we got Tundra coming up here as well. Tundra, you have a question?

Tundra V1 49:12

Yeah. Hey, guys, and hey, Do and Kanav, thanks for putting this on. Do, you mentioned that the growth rate of UST is currently happening basically as fast as it can due to some liquidity point that I think you made. Can you maybe expand on that just a little bit?

Do Kwon 49:32

Sure. So what I mean by that is the mechanism to swap UST and LUNA is actually a virtual AMM, which means that when you're swapping your LUNA to mint UST, you're essentially creating at some some virtual conceptions that the protocol has for the pool of UST that trades against a pool of LUNA that has just been burned, right. So the idea is that the LUNA that's just been burned doesn't explicitly sit in an AMM pool, but the protocol has some sort of conception on what are the sizes of the LUNA to the UST pool that should observe the xyk variants. So after some point, if there's too much minting demand, the slippage cost that you need to pay in order to mint starts to go up, similar to the types of fees that need to pay on Astroport, right. So if we're burning, let's say, 1,000,000 LUNA – 2,000,000 LUNA per day. Beyond that, the slippage costs that the user would need to pay in order to mint UST would be higher than whatever slippage costs that they would need to pay at the open market. So that's what I mean by maximum throughput. Similar to

what happened in May of 2021, where there were too many UST redemptions that we're looking to happen against LUNA, in which case the AMM slippage costs rose the other way. And it took a few days for the slippage cost to naturally heal back to spot. So that's another feature of the market module where when the exchange rate has deviated from the peg, the protocol automatically self-heals the exchange rate back to whatever the spot price is being quoted by the oracle. So that's why it took several days for the peg to recover.

Tundra V1 51:29

Okay, cool. Yeah, that makes sense. And I've noticed that over the past 17 days we've had $100 million in UST growth pretty consistently, actually 18 days as of today. I'm curious, do you see that as an issue? Or how are you kind of thinking about that in terms of widening the bandwidth in terms of getting more UST created?

Do Kwon 51:51

Yeah, actually the sizing of the pools isn't something that we discretionarily said, right. It's bounded by existing LUNA and UST liquidity, right. Now that liquidity has gone up a lot, we recently readjusted the liquidity parameters so that we can mint a lot more in a given day. But I think it's just one of those things that we modify through governance proposals over time.

Tundra V1 51:55

Got it. Thank you, though.

The Ship Show 52:18

Thank you so much. We're gonna bring up some more people to talk. It's k.chang, you can now speak whenever you're ready, the floor is yours.

k.chang 52:32

Hi, thanks Do and Kanav. Quick question on regulation. I understand that stablecoin, that's going to be heavily regulated, especially with USDC and USDT,

just curious on how UST will look in terms of regulation, especially if there's massive adoption across major applications. And thank you guys love your work.

Do Kwon 52:54
Got it. So there are lots of reasons why governments would want to regulate centralized stablecoins. So I think the the quick answer is, I don't think algorithmic stablecoins or decentralized currencies are in scope of regulatory interest just quite yet. Because I think regulators are more interested in things like the potential where fraud could happen where, let's say, stablecoin issuers of USDC, Tether, Paxos, are not keeping the money in safe deposits, like they're representing to the public. But ultimately, the areas of interest for regulators can evolve, like the areas of interest for the private sector. And I think the goal there is to get to a state where UST is being widely used, its utility as to why the state and money should be separated, if that becomes a matter of common opinion and things like that, then in that case this will be one of those things that is impossible to shut down, similar to Bitcoin itself.

The Ship Show 54:11
Awesome. Thank you so much for your question. We are just five minutes out from the hour. So I think we'll go ahead and start wrapping up this Spaces. I did want to give Kanav and Do the last chance to share any final thoughts before we close out, so the floor is yours, gentlemen, with any last words.

Do Kwon 54:29
You want to go first, Kanav?

Kanav Kariya 54:31
Well, I just wanted to... Do started off saying the first time we spoke was in 2019, and I hadn't really quite internalized that until now. And so, yeah, it's been really, really awesome working with you and the rest of the Terra community for over two

years now. Kind of quite stunning to think about how far things have come, so yeah, just wanted to say that it's been awesome.

Do Kwon 54:57
Yeah, it's the pleasure has all been mine. And it's kind of crazy to see how our relationship has evolved to sort of synergistic with decentralized money and the base layer for cross-chain infrastructure and things like that. And we're sort of collaborating as builders, from my perspective, to take Terra assets across multiple chains and for Wormhole to connect all the blockchains together.

Kanav Kariya 55:27
That's right. who would have thunk it? Alright. [chuckle]

The Ship Show 55:33
Awesome. Well, thank you. Thank you everyone, for joining tonight and a huge thank you again to Kanav and Do for speaking and sharing the knowledge you have this evening. Please be sure to follow both of our speakers on Twitter as well as terra.money and Jump Crypto for all content and everything DeFi. Good night everyone. Thanks again.

Zion 55:55
Thanks everyone.

Do Kwon 55:55
Bye bye.

Finn 55:57
Thanks for checking out another episode of The Ether. That was The Ship Show, Episode One with Kanav and Do Kwon. Recorded on Tuesday, March 1st 2022. This episode of The Ether was brought to you by Talis. Talis Protocol is the NFT platform for independent artists on Terra. Talis helps to provide artists with the tools and resources needed to transition from traditional arts into the NFT world. With their

V1 launch coming soon, Talis will be the place to see real world art reflected on Terra. Be sure to join their Telegram and follow Talis on Twitter for updates on their roadmap, validator, and other Tallis news. Find your next favorite artists on talis.art. This episode of The Ether was also brought to you by Luart. Luart is the first gamified NFT platform built on the Terra network. Luart provides a seamless minting and trading experience all while earning you rewards just for being a user. Be sure to follow them on Twitter and join the community in the Discord server for the most up to date news and announcements regarding all the hot new NFT launches, platform upgrades, and new projects hitting the secondary marketplace. Are you ready to #PutYourHelmetOn and join the movement? Find out more luart.io. TerraSpaces appreciates the support from all our sponsors. For terraspaces.org, I'm Finn. Thanks for listening.

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